



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,252	01/14/2002	Kook Jin Bae	0112-PA	9431

7590 03/08/2004

Michael P. Dilworth  
CROMPTON CORPORATION  
Benson Road  
Middlebury, CT 06749

EXAMINER

REDDICK, MARIE L.

ART UNIT	PAPER NUMBER
----------	--------------

1713

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/043,252

Applicant(s)

BAE ET AL.

Examiner

Judy M. Reddick

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01/14/02 & 09/15/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/15/03; 1/14/02</u> | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1713

**DETAILED ACTION**

**Information Disclosure Statement**

1. The information disclosure statements filed 01/14/02 & 09/15/03 have been considered and scanned into the file.

**Claim Rejections - 35 USC § 103**

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zinke et al.(U.S. 5,969,015), alone, and further in combination with applicants' own admission.

Art Unit: 1713

Zinke et al teach compositions comprising (i) a halogen-containing polymeric material which includes vinyl chloride homo- and copolymers, alone, or further in combination with other thermoplastic and/or elastomeric polymers which include ethylene/vinyl acetate copolymers, ethylene/vinyl acetate/carbon monoxide copolymers, etc.(col. 21, lines 48-49, col. 22, lines 8-38 and col. 23, line 60), (ii) at least one monomeric or oligomeric phosphite compound, suitable for stabilizing said material against oxidative, thermal or light induced degradation and (iii) further customary additives such as lubricants, plasticizers, pigments, antiblocking agents, modifiers, processing assistants, blowing agents, antistatic agents, biocides, antifogging agents, colorants, flame retardants, fillers, antioxidants, light stabilizers and/or other processing stabilizers and additionally, additives from the groups of the organic or inorganic zinc, alkali metal, alkaline earth metal or/and aluminum compounds, of the sterically hindered amines, of other organic amines, of the organotin and/or organoantimony compounds, of the polyols, epoxides, hydrotalcites, zeolites, dawsonites, 1,3-diketones, 3-ketocarboxylates and/or perchlorates. In particular, the customary additives include epoxide compounds, perchlorates of the formula  $M(ClO_4)_n$  wherein M is Li, Na, K, Mg, Ca, Ba, Zn, Al, Ce or La,  $n = 1, 2$  or  $3$  and wherein the perchlorate is operable in an amount of 0.001 to 5 parts by weight based on 100 parts by weight of (i) halogen-containing polymeric material and can be used as an aqueous solution(claims 4 & 5), zinc compounds which include zinc salts of the monovalent carboxylic acids having 7-24 carbon atoms, plasticizers which include phthalates, trimellitates, epoxide plasticizers, lubricants, fillers, etc. See, e.g., the Abstract, col. 1, lines 1-50, col. 3, lines 49-67, col. 4, lines 8-67, , col. 5, lines 1-67, col. 8, lines 1-19, col. 9, lines 4-17, col. 14, line 26, col. 16, lines 1-67, col. 17, lines 10-12, 45 and 55 and col. 18, line 9. Zinke et al further teach @ col. 19, lines 5-17 that the compounds of formula I and further optional additives can be added to the polymers in known manner via mixing said compounds and further optional additives with the halogen-containing polymer-ethylene/vinyl acetate/carbon monoxide copolymer blend using known apparatus such as mixers, calenders, kneaders, extruders, mills and the like wherein, in this process, they can be added singly or in admixture, or also in the form of so-called

Art Unit: 1713

masterbatches. See also col. 24, lines 54-58. Zinke et al @ col. 19, lines 18-20 further teach that the compositions are suitable for semi rigid or soft formulations. See also cols. 23-25 of Zinke et al.

The disclosure of Zinke et al differs basically from the claimed invention as per the non-express disclosure of an embodiment directed to the specifically defined carbon monoxide modified ethylene copolymer composition having diminished tendency to cause discoloration on heating at 180 degrees C of a plastic composition whose major polymeric component is polyvinyl chloride comprising a carbon monoxide modified ethylene copolymer with an unsaturated ester softening monomer and an amount, effective in diminishing said discoloration, of at least one inorganic perchlorate salt selected from the group consisting of alkali metal perchlorates and alkaline earth metal perchlorates. However, one having ordinary skill in the art would have found it obvious, on its face, to extrapolate, from the disclosure of Zinke et al, the precisely defined carbon monoxide modified ethylene copolymer composition, as claimed(1, 6, 16 & 20), as per such having been within the purview of the general disclosure of Zinke et al and with a reasonable expectation of success. As to the content of ethylene/vinyl acetate/carbon monoxide copolymer and the content of inorganic perchlorate salt, being effective to diminish discoloration in the halogen-containing polymer composition of Zinke, such is generic and necessarily implies that any content, including the claimed content, would have been operable within the scope of patentees invention and with a reasonable expectation of success. It would be expected that the extrapolated(modified) composition of Zinke et al would possess the property limitation of "having diminished tendency to cause discoloration on heating at 180 degrees C" since the extrapolated composition of Zinke et al is essentially the same as and made under essentially the same conditions as applicants' composition. Moreover, the discovery that the claimed composition possesses a property not disclosed for in the prior art does not alone defeat a prima facie case of obviousness as provided for under the guise of In re Dillon(16 USPQ 2d. 1897-1921).

Art Unit: 1713

The introductory phrase "A method of diminishing the tendency to cause discoloration on heating at 180 degrees C" per claim 20 cannot serve to patentably distinguish the claimed method from that of Zinke et al. That language, in effect, is the result of combining polyvinyl chloride, a carbon monoxide modified ethylene-vinyl acetate copolymer and at least one inorganic perchlorate salt. While Zinke et al do not show a specific recognition of that result, its discovery by applicant is tantamount only to finding a new property in an old composition as provided for under the guise of *In re Tomlinson*(363 F.2d 928, 150 USPQ 623 (CCPA 1966)). As to any remaining limitations per the (in)dependent claims, such is either taught by Zinke et al, suggested by Zinke et al or would have been obvious to the skilled artisan and with a reasonable expectation of success.

As to claim 21, a carbon monoxide modified ethylene-vinyl acetate copolymer containing plastic composition whose major polymeric constituent is polyvinyl chloride is impliedly admitted to be old in the art(see pages 1-3 of applicants' disclosure). Therefore, one having ordinary skill in the art would have found it obvious to add at least one inorganic perchlorate salt selected from the group consisting of alkali metal perchlorates and alkaline earth metal perchlorates to the admittedly old composition following the guidelines of Zinke et al @ col 4, line 43 & col. 9, lines 4-17 which states, in essence, that the use of perchlorates of the formula  $M(ClO_4)$  in an amount of 0.001 to 5 parts by weight, based on 100 parts by weight of halogen-containing polymeric material, is a customary additive in compositions comprising (i) a halogen-containing polymeric material-ethylene/vinyl acetate/carbon monoxide copolymer blend and (ii) at least one phosphite compound of formula I and with a reasonable expectation of success. As to the diminishment of the tendency to discolor upon heating at a temperature of 180 degrees C of said composition by the addition thereto of an amount effective in diminishing said discoloration, it would be reasonably expected that this property would be met based on the compositions structural similarity. The discovery that the claimed composition possesses a property not disclosed for in the prior art does not alone defeat a prima facie case of obviousness as provided for under the guise of *In re Dillon*(16 USPQ 2d. 1897-1921).

Art Unit: 1713

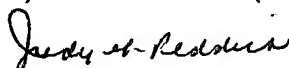
**Conclusion**


6. The additional prior art listed on the FORM PTO 892 is cited as of being illustrative of the general state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judy M. Reddick whose telephone number is (571)272-1110. The examiner can normally be reached on Monday-Friday, 6:30 a.m.-3:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Judy M. Reddick  
Primary Examiner  
Art Unit 1713

JMR   
02/21/04